

REMARKS/ARGUMENTS

Claims 1 -14 have been canceled. New Claims 15 - 30 are active in the case.

Reconsideration is respectfully requested.

The present invention relates to the preparation of olefins or olefin mixtures having from 8 to 12 carbon atoms.

Applicants wish to thank the Examiner for the indication of allowable subject matter in the case.

Claim Amendments

Original Claims 1-9 appear in the claims as new Claims 15, 16, 18 and 24-30. New Claim 17 is supported by the text at page 10, last paragraph. Claim 20 is supported by page 13, lines 28-30 and Claim 21 is supported by the text at page 14, lines 1-4. Claim 22 is supported by page 15, lines 5-8 of the text and Claim 23 is supported by page 16, lines 9-11 of the text. Claim 24 is supported by page 15, lines 1-8 of the specification. Accordingly, the presentation of new claims does not introduce new matter into the case. Entry of the new claims is respectfully requested.

Claim Rejection, 35 USC 112

The rejection of Claims 12-14 is obviated in view of the cancellation of the claims from the record. Withdrawal of the rejection is respectfully requested.

Claim Rejection, 35 USC 102

Claims 10 and 11 stand rejected based on 35 USC 102 as anticipated by Fujiwara et al, '088. This ground of rejection is obviated by the cancellation of the claims from the case.

Claims 10 and 12-14 stand rejected based on 35 USC 102(b) as anticipated by Kaizik et al., '072. This ground of rejection is obviated by the cancellation of the claims from the case.

Claims 1-3, 5-9 and 14 stand rejected based on 35 USC 103(a) as obvious over Kaizik et al. '782 in view of Kukes et al., '890. This ground of rejection is respectfully traversed.

The Examiner in his consideration of the '782 patent summarizes the disclosure of the document as describing the hydroformylation of an olefin starting material followed by hydrogenation of the aldehyde product obtained. It is true that the patent discloses that a possible way of preparing the first stage aldehyde product is by hydroformylation of an olefin (col 2, lines 19-21). However, this is not the procedure that is discussed in detail in columns 2 and 3 of the patent, where an extensive description of the preparation of  $\alpha,\beta$ -unsaturated ketones by the aldol condensation reaction of acetone with one of the aldehydes described in the middle of column 2 is found. Again, the product of the condensation reaction is an unsaturated ketone, which is not a product of hydroformylation of an olefin. Example 1 of the patent describes the condensation of acetone with pentanal to form 3-octen-2-one product. This also means that the description of hydrogenation in column 3 of the patent pertains to the production of alcohol by the hydrogenation of not only the double bond of the unsaturated ketone, but also the internal carbonyl group of the unsaturated ketone to an alcohol group, thereby producing a secondary alcohol, such as 2-octanol, as the major alcohol product. This is not the hydrogenation which occurs in step b) of the present process.

The Kukes et al patent discloses a variety of metathesis reactions in columns 2 and 3 of the patent. However, the sole objective of the reference is to provide an improved catalyst system for the general improvement of unsaturated reactants to products. The catalyst is a combination of supported tungsten oxide, supported molybdenum oxide or a mixture thereof

and a second component of tungsten, silicon, antimony or mixtures thereof. There is no teaching or suggestion in the patent of a metathesis reaction that is the concluding step in a multi-step process in which a light unsaturated hydrocarbon is used as a starting material in the production of at least one olefin of higher molecular weight, where a specification of the concluding metathesis step is the production of the heavier at least one olefin with the elimination of ethylene in the conversion to the heavier olefin. Accordingly, it is not clear at all why one of skill in the art would be led to carry the disclosure of Kaizak et al beyond its scope of three sequential reactions by including an additional step of a metathesis reaction which requires the elimination of ethylene as a by-product. The combined references therefore are not believed to suggest any aspect of the invention as claimed

Applicants do not concur that Claim 9 (original, new Claim 30) is obvious in view of the cited combination of Kaizik et al and Kukes et al. Neither of the two references mentions 3-methyl-1-butene in any context. Also, neither reference teaches nor suggests the separation of the 5 carbon content alkene from a mixture of other 5 carbon content 1-olefins. Kaizik et al, in fact, only disclose the five carbon atom containing aldehyde, pentanal, as a reactant with acetone in the aldol reaction to prepare a C<sub>8</sub> unsaturated ketone. Clearly Claim 9 stands free of the prior art. In light of the comments above, withdrawal of the outstanding ground of rejection is respectfully requested.

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It is believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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